

What Is Claimed Is:

1. An annuloplasty band comprising a ring of graft tissue.
2. An annuloplasty band according to claim 1 wherein said graft tissue comprises pericardium.
3. An annuloplasty band according to claim 1 wherein said graft tissue comprises autologous tissue.
4. An annuloplasty band according to claim 1 further comprising a support structure attached to said graft tissue.
5. An annuloplasty band according to claim 4 wherein said support structure is internal to said graft tissue.

6. An annuloplasty band according to claim 5 wherein said support structure comprises an axial structure.

7. An annuloplasty band according to claim 6 wherein said graft tissue is rolled around said axial structure.

8. An annuloplasty band according to claim 7 wherein said axial structure comprises an intermediate section terminating in a pair of opposing ends, and further wherein said intermediate section is flexible.

9. An annuloplasty band according to claim 8 wherein said opposing ends are elastic.

10. An annuloplasty band according to claim 8 wherein said opposing ends are adapted to connect to one another.

11. An annuloplasty band according to claim 8 wherein said axial structure is formed out of plastic.

12. An annuloplasty band according to claim 8 wherein said axial structure is formed out of metal.

13. An annuloplasty band according to claim 8 wherein said axial structure is formed out of suture.

14. An annuloplasty band according to claim 4 wherein said support structure is external to said graft tissue.

15. An annuloplasty band according to claim 14 wherein said support structure is a mesh surrounding at least a portion of said graft tissue.

16. An annuloplasty band according to claim 15 wherein said support structure includes sutures.

17. An annuloplasty band according to claim 16 wherein said sutures are purse string sutures.

18. A method for performing an annuloplasty on a heart valve comprising the steps of:

fashioning an elongated length of graft tissue;  
sizing the elongated length of graft tissue to the annulus of the valve; and

implanting the elongated length of graft tissue onto the annulus of the valve.

19. A method according to claim 18 wherein said step of fashioning comprises the substeps of:

obtaining a length of graft tissue; and  
rolling the length of graft tissue along an axis thereof so as to create a roll of tissue.

20. A method according to claim 18 wherein said step of fashioning comprises the substeps of:

obtaining a length of graft tissue;

positioning an axle adjacent to the graft tissue;  
and

rolling the length of graft tissue about the axle  
so as to create a roll of tissue overlying the axle.

21. A method according to claim 20 wherein said  
axle comprises two opposing ends, and further wherein  
said ends are stretchable.

22. A method according to claim 18 wherein said  
step of sizing comprises the substeps of:

positioning the elongated length of graft tissue  
onto an adjustable mounting ring; and

adjusting the size of the adjustable mounting  
ring.

23. A method according to claim 22 wherein said  
adjustable mounting ring comprises an annular  
peripheral surface, and further wherein said substep  
of positioning comprises positioning the elongated

length of graft tissue onto said annular peripheral surface.

24. A method according to claim 18 wherein said step of sizing comprises the substeps of:

providing a set of pre-sized, fixed diameter mounting rings;

selecting, from the set of pre-sized, fixed diameter mounting rings, a particular mounting ring having a size corresponding to the size of the annulus of the valve; and

positioning the elongated length of graft tissue onto the selected mounting ring.

25. A sizer for sizing a tissue annuloplasty band, said sizer comprising:

an adjustable mounting ring;

wherein said adjustable mounting ring comprises a plurality of segments each having an arcuate peripheral surface, wherein said plurality of segments are configured so that they collectively form an

arcuate peripheral surface for said adjustable mounting ring, and wherein said plurality of segments are adapted to be moved relative to one another so as change the size of said collective arcuate peripheral surface.

26. A graft tissue cutting assembly comprising:  
a male member having a surface with a perimeter;  
and

a female member having an opening with a perimeter, the perimeter of said opening corresponding to the perimeter of said surface;

whereby when a piece of graft tissue is placed upon said surface and said surface is advanced into said opening, any tissue extending beyond said perimeter of said surface will be excised;

and further wherein the perimeter of said surface is configured so as to yield graft tissue sized for use in forming a tissue annuloplasty band.

27. A graft tissue cutting assembly according to claim 26 wherein said surface includes an elongated groove formed therein.

28. An annuloplasty band according to claim 7 wherein at least one of an adhesive, a sealant and a medication is applied to the graft tissue.